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Exhibit "A"

Green Bay Metropolitan Sewerage District

Administrative Consent Order Compliance Plan

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Green Bay Metropolitan Sewerage District
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GBMSD has prepared this Compliance Plan, in accordance with the Administrative Consent Order, to document the steps to be taken to help ensure performance of the Granular Activated Carbon (GAC) system and other emission control systems used with the Fluid Bed Incinerator.

a. GAC Pressure Drop Trends

GBMSD will continue to use differential pressure monitoring across the GAC bed as required by GBMSD's Site Specific Monitoring Plan (SSMP). The differential pressure across the bed is a measure of buildup of dust, moisture, and precipitates on the carbon.

The maximum differential pressure set by the manufacturer is 11 inches of water. Per the GAC Parameter Interlocks and Responses table provided below, the action will trigger a GAC shutdown when the differential pressure reaches 11 inches of water. Differential pressure across the carbon bed is monitored continuously. Averages are calculated over one-hour intervals and recorded every 15 minutes. The hourly averages are used to calculate 12-hour block averages, which are used to demonstrate compliance. These frequencies are consistent with those shown in Table 3 to Subpart LLLL of Part 60 – Operating Parameters for New Sewage Sludge Incinerators (Subpart LLLL). The SSMP might be modified as allowed by Subpart LLLL.

b. Washing of the Activated Carbon

GBMSD will refrain from washing and drying the carbon media until GBMSD has evaluated and implemented Standard Operating Procedures (SOPs) to wash, dry, and reuse carbon. These SOP's will include a GAC system evaluation using best professional judgement, and industry and control technology experts. The assessment process will determine action risks and mitigation strategies. The SOPs will document the procedures for evaluating, washing, drying, and reusing carbon.

GBMSD will maintain an on-site supply of GAC carbon for a complete GAC carbon change out. The purpose of the on-site supply is to have carbon available in the event of an unexpected issue with the GAC. Within 10 days of using the on-site carbon supply, GBMSD will order a fresh supply of carbon for future use.

c. GAC Sulfur Content

GBMSD will continue to use available sulfur content in the activated carbon as a measure of GAC system performance as required by GBMSD's SSMP. The activated carbon used with the GAC is impregnated with sulfur, which binds with the mercury in the exhaust gas.

As the available sulfur content of the carbon decreases, the lifetime of the activated carbon bed for mercury removal decreases. The available sulfur content of the carbon will determine the mercury removal potential remaining for the process. The manufacturer recommends replacing carbon when the available sulfur content reaches 20% or less of the original sulfur content of the carbon. The manufacturer recommends monitoring the mercury removal capacity monthly initially for the first three months to establish saturation behavior of the carbon bed, then every six months. Sampling lances are provided in each of the three carbon layers to sample the carbon and measure the available sulfur. The SSMP might be modified as allowed by Subpart LLLL.

d. GAC Temperature Monitoring

GBMSD fabricated, installed, and programmed a supplemental in-bed temperature monitoring system that exceeds the incinerator system designer's and GAC manufacturer's recommendations. The system has high alarm thresholds for the in-bed monitored temperatures. The alarms relay through the plant's SCADA system to the plant operations control room and the operator is trained to notify a supervisor for an evaluation of what response action, if any, needs to be taken. GBMSD will annually train operators on the system intent and functionality. This training will include a review of the GAC control functionality, alarm conditions, and response protocols that will be followed in the event of a temperature anomaly within the GAC carbon bed.

e. Improve CO Monitoring

GBMSD will continue to use the GAC Carbon Monoxide (CO) monitoring system to be alerted of potentially hazardous conditions in the carbon bed. The selected concentration setpoints are based on communications with and input from the system providers, Suez (incineration system vendor) and CPPE (GAC manufacturer). The following conditions initiate response actions:

1) High differential CO concentration between the GAC inlet and outlet
2) High CO concentration at the GAC inlet and/or outlet and high carbon bed temperature

GBMSD has developed and implemented a SOP for periodic CO Analyzer inspection and operation procedures. This SOP will be added to the plant's Computerized Maintenance Management System so that preventative maintenance activities will be automatically scheduled.

More information on the CO monitoring system's enhanced interlocks and related operator training on the system is provided in sections "g" and "h" below, respectively.

f. Scrubber and WESP Performance

GBMSD will continue to conduct parametric monitoring for the Scrubber and Wet Electrostatic Precipitator (WESP) as required by GBMSD's SSMP. The following information is included in the GBMSD SSMP.

The Scrubber System is designed to capture particulate in the combustion off gas of the FBI and control acid gas emissions. The Scrubber consists of a quench section, a tray cooler section, a multiple venturi section, and a mist eliminator section, all contained in a single vessel. The basic control concept is to maintain a designated differential pressure across the venturi diaphragm and an adequate water flow through the scrubber. Scrubber water pH is controlled to facilitate removal of acid gases from the exhaust stream.

Parametric monitoring for the scrubber consists of:

1) Differential pressure across the scrubber – The Operation Limit is calculated as the lowest 4-hour average pressure drop across the scrubber measured during the particulate matter, cadmium and lead emission tests. First hourly average pressures are calculated. The 4-hour averages are calculated using four sequential 1-hour averages

2) Scrubber water flow rate – The Operation Limit is calculated as the lowest 4-hour average scrubber water flow measured during emissions testing for all pollutants. First hourly average pressures are calculated. The 4-hour averages are calculated using four sequential 1-hour averages.
3) pH of the scrubber water – The Operation Limit is calculated as the lowest 1-hour average scrubber water pH measured during the hydrogen chloride and sulfur dioxide emission tests.

The acceptable operating ranges for these parametric ranges are periodically reset during compliance emission tests.

The WESP is designed to control particulate emissions and consists of a vessel contains 31 hexagonal collection tubes along with 31 high voltage masts with StarTM emitters. The tubes and masts function together with the high DC voltage to collect the ultra-fine particulate from the flue gas. The high voltage to the WESP is supplied by the Transformer/Rectifier unit, which steps up the supplied power up to 65,000 DC volts. Also supplied is an automatic wash down system, which periodically washes down the collection plates to remove the particulate.

Parametric monitoring for the WESP consists of:

1) Secondary voltage and current are monitored. Measured secondary voltage and current are multiplied together to calculate the required power to the WESP. The minimum power requirement is established as the minimum product of voltage and amperage measured during the emissions tests for particulate matter, lead, and cadmium emissions. First 1-hour average power levels were calculated. Consecutive 1-hour averages were averaged to calculate 4-hour averages. The lowest 4-hour average establishes the Operating Limit.
2) Spray water flow rate - The Operation Limit is calculated as the lowest 4-hour average scrubber water flow measured during emissions testing for all pollutants. First hourly average pressures were calculated. The 4-hour averages are calculated using four sequential 1-hour averages.

The acceptable operating ranges for these parametric ranges are periodically reset during compliance emission tests.

g. Enhanced Protection System Interlocks

GBMSD has implemented enhanced protective system interlocks with monitored parameters (e.g., CO concentrations, measured bed temperatures). These measures were fully reviewed by GBMSD staff, Suez, and CPPE. Recommendations were evaluated and several GAC system controls and responses were implemented, such as temperature alarms at droplet separator, adsorber inlet and outlet, and within the carbon bed. Monitored CO concentrations at the inlet and outlet and differential across the GAC were used to establish automatic system responses.

Operators have been trained on automatic response protocols based on the equipment manufacturer's recommendations as shown on the table below. These responses are automated to minimize opportunities for operator error.

GBMSD has developed and implemented a periodic GAC system interlock verification SOP. This procedure will be added to the plant's Computerized Maintenance Management System so that preventative maintenance activities will be automatically scheduled.

GAC Parameter Interlocks and Responses

GAC Parameter	Trigger	Delay	Mode						
			Manual	Offline	Startup	Hot Standby	Online	Shutdown	Emergency Isolation
PIT-0700: high pressure across carbon bed	> 11" wc						x		
TDI-0651: low diff. temp: scrubber outlet/adsorber inlet	< 15° F	15 min					x		
TIT-0517: high scrubber outlet temperature	> 100° F						x		
TIT-0608: high temperature at demister inlet	> 165° F						x		
TIT-0666: high temperature at adsorber inlet	> 165° F						x		
PIT-607: low pressure at demister inlet	< 3" wc	120 sec					x		
TIT-0710: high temperature at adsorber outlet	> 165° F		x	x	x	x	x	x	
TIT-0708/0709: high temperature in the carbon bed adsorber	> 165° F		x	x	x	x	x	x	
AIT-0716C: high differential of CO concentration	> 60 ppm	5 min	x		x	x	x	x	
[redacted]									
TIT-0708/0709: high temperature in the carbon bed adsorber	> 155° F	1 min		x					
AIT-0716C: high differential of CO concentration	> 60 ppm	5 min		x					
AIT-0716A or 0716B: High inlet or outlet CO	> 200 ppm	5 min		x					

Triggers a GAC Shutdown*
Triggers GAC to go to Hot Standby*
Triggers GAC to go to Emergency Isolation*
[redacted]
Alarm popup appears on all screens

*Feed to the incinerator is stopped in addition to this response

h. Provide Operator Training

GBMSD has developed and maintains an operation staff training program on the GAC and other pollution control system response actions. The training will be conducted at least annually. The training will address how to avoid GAC thermal excursions using parametric monitoring, action levels, and the required actions for several parameters including:

1) high pressure across the carbon bed
2) low differential temperature between scrubber outlet and GAC inlet
3) scrubber outlet temperature
4) high temperature at the GAC inlet, in the GAC bed, and at the GAC outlet
5) high differential CO concentration across the GAC
6) high inlet or outlet CO concentration